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BOOK REVIEWS

Atlas du Phytoplancton Marin. Vol. III. By M.J. Chrétiennot-Dinet. Centre National de la Recherche Scientifique. 1990, 261 pp. Price FF 250 (Reviewed by D.J. Garbary) 231

Mycotoxins and Phycotoxins '88. Bioactive Molecules. Vol. 10. Edited by S. Natori, K. Hashimoto and Y. Ueno. Elsevier Science Publishers, BV, Amsterdam. 1989, ix + 484 pp. Price US$168.50/Dfl 320 (Reviewed by G. Blunden) 232

The Diatoms, Biology and Morphology of the Genera. By F.E. Round, R.M. Crawford and D.G. Mann. Cambridge University Press, Cambridge. 1990, viii + 747 pp. Price £135.00 (Reviewed by T. Christensen) 233

Photosynthetic Pigments of Algae. By K.S. Rowan. Cambridge University Press, Cambridge. 1989, xii + 334 pp. Price £30/$59.50 (hardback) (Reviewed by P.Ó Carra) 235

Aquaculturalists' Guide to Harmful Australian Microalgae. By Gustaf M. Hallegraeff. Fishing Industry Training Board of Tasmania and CSIRO Division of Fisheries, Hobart, 111 pp., 37 figs. 1991. Price A$25.00 (soft cover only) (Reviewed by M.D. Guiry) 480

Rhodophyta. By T.V. Desikachary, V. Krishnamurthy and M.S. Balakrishnan. Madras Science Foundation, Madras. vi + iv + 277 pp. + xiv pls; iv + 279 pp. + 51 figs + xli pls, 1990. Price US$35.00 (Reviewed by P.S. Dixon) 480

Ostsee-Algenflora. By H. Pankow, in collaboration with V. Kell, N. Wasmund and B. Zander. Gustav Fischer Verlag, Jena, BRD (formerly DDR). 1990, 648 pp., 1738 figures (line drawings) and 57 photomicrographs. Price: DM 158.00. (Reviewed by C. van de Hoek) 600

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